

Remarks

Claims 1-12, 14-17, 19, 21-23 have been amended. Claims 13 and 18 have been canceled without prejudice. No new matter has been added by way of these amendments.

Formalities

Examiner has objected that drawings do not show every feature in claims 13 and 18. Applicant overcomes this objection by canceling claims 13 and 18 without prejudice. Applicant has amended the remaining claims in line with the examiner's suggestions to overcome the informalities objected to. Applicant submits that all formality objections are now overcome.

Claim Rejections 35 USC 112

Applicant has amended the preamble of claim 1 in line with the examiner's suggestions. Specifically, the preamble of claim 1 has been positively recited in that the braking device is now 'configured to operate with' a turbine, which makes it clear that the invention is directed at the combination of braking device with turbine. The remainder of the claim recites the manner in which the braking device and turbine are connected by at least one body.

Claim 22 has been amended in line with the examiner's suggestions.

Claim Rejections 35 USC 102

Applicant disagrees with the examiner that claim 1 is anticipated by Ioanesian et al. (US 3,728,040).

Claim 1 recites the feature that the rotation of the turbine shaft causes a movement for generating a resisting torque that is "a function of the square of the rotation speed of the turbine shaft with respect to said fluid medium". This is neither taught nor hinted at in Ioanesian. Quite

the opposite, the only torque characteristic in Ioanesian appears to be linear, see torque lines I and I_a in Figures 9 to 11 and column 4 lines 3-8.

Claim 23 is distinguished over Ioanesian for the same reasons.

Applicant also disagrees with the Examiner that claim 1 is anticipated by Braun (US 3,547,231).

Braun does not teach the aforementioned distinctive feature of “generating a resisting torque that is a function of the square of the rotation speed of the turbine shaft with respect to said fluid medium”. Claims 1 and 23 both contain this feature and are therefore distinguished over Braun.

Furthermore, Braun does not disclose the claimed feature of “configured to operate with a turbine in a drilling equipment”. There is no teaching of a drilling environment in Braun, rather Braun is concerned with a gas turbine engine - see column 2 lines 20-29. Examiner argues that Braun could therefore be used in a truck, but a turbine used for a vehicle transmission system has nothing to do with a turbine used for drilling. Some trucks do indeed carry drilling equipment, trucks carry many things, but the principles of operation of a truck transmission is wholly unrelated to the principles of operation of drilling equipment.

Claim Rejections 35 USC 103

Claim 19 is dependent on claim 1, which is distinguished over Ioanesian in reciting the non-linear (square) relationship of the torque. This is not obvious, because none of the citations relied on by the examiner teach this feature. Indeed, the present application acknowledges on page 1 lines 17-20 the disadvantages of previous ‘linear’ systems, such as US 5,517,464. Specifically, that linear braking systems exhibit pronounced and undesirable baking effects. Thus, the squared or non-linear relation provides braking effects that are particularly desirable in a drilling environment. None of the prior art discloses such a squared braking characteristic or more importantly the advantageous use of this braking characteristic in a drilling environment.

Applicant is of the opinion that this reply is fully responsive to all outstanding issues. Accordingly, the application is now deemed to be in condition for allowance, and notice to that effect is solicited. This paper is submitted in response to the Office Action mailed April 30, 2008 for which the three-month date for response was July 30, 2008. Pursuant to 37 C.F.R. § 1.136(a), Applicants petition for an extension of time of two months in which to respond to the Office Action. This two month extension will bring the deadline for response to September 30, 2008, which is within the six-month statutory period.

Please apply any charges not covered, or any credits, to Deposit Account 50-2183 (Reference Number 21.1106).

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Respectfully submitted,

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